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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,886	10/19/2001	John V. Reynders	P6270	3221

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EXAMINER	
NANO, SARGON N	
ART UNIT	**PAPER NUMBER**
2157	

DATE MAILED: 02/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/027,886	REYNDERS ET AL.	
	Examiner	Art Unit	
	Sargon N. Nano	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2- 6, 8 - 14, 21 - 27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2- 6, 8 - 14, 21 - 27* is/are rejected.

7)☒ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to restriction received on Dec. 16, 2005. Claims 2 – 6, 8 - 14 and 21 – 27 were elected for prosecution.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Signal does not fall within any category of 101. Claim 27 recites a signal encoded with functional descriptive material that does not fall within any category of patentable subject matter set forth in 101

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 2 – 6, 8 – 14, and 21 – 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Medard et al. U.S. Patent No. 6,047,331 (referred to hereafter as Medard).

As to claim 23, Medard teaches a method for adding routing information for a new node to a routing table with a plurality of entries that reflect an existing deadlock-free set of paths through a network of nodes, wherein the routing table has a row for each source node in the network and a column for each destination node in the network and wherein a table entry located at an entry row and an entry column identifies a link that can be used to send data from the source node in the entry row to the destination node in the entry column, the method comprising:

adding to the routing table, a row including a plurality of entries, each entry identifying a link that directly connects the new node to a neighbor node that can be connected, via existing deadlock-free paths described by the table, to a destination node associated with the entry column (see col. 9 line 44 – col. 10 line 19 and fig. 1, Medard discloses a routing table that has information about newly installed as well as maintained network links that connect each source node to destination node); and

adding to the routing table a column including a plurality of entries, each entry identifying a link that can be used to connect a source node associated with the entry row, via existing deadlock-free paths described by the table, to a neighbor node that can be directly connected to the new node(see col. 9 line 44 – col. 10 line 19 and fig. 1, Medard discloses links or paths that connect neighboring nodes).

As to claim 24, Medard teaches a system for adding routing information for a new node to a routing table with a plurality of entries that reflect an existing deadlock-free set of paths through a network of nodes, wherein the routing table has a row for each source node in the network and a column for each destination node in the

network and wherein a table entry located at an entry row and an entry column identifies a link that can be used to send data from the source node in the entry row to the destination node in the entry column, comprising routing logic operable to:

add to the routing table, a row including a plurality of entries, each entry identifying a link that directly connects the new node to a neighbor node that can be connected, via existing deadlock-free paths described by the table, to a destination node associated with the entry column(see col. 9 line 44 – col. 10 line 19 and fig. 1, Medard discloses a routing table that has information about newly installed as well as maintained network links that connect each source node to destination node); and

add to the routing table a column including a plurality of entries, each entry identifying a link that can be used to connect a source node associated with the entry row, via existing deadlock-free paths described by the table, to a neighbor node that can be directly connected to the new node(see col. 9 line 44 – col. 10 line 19 and fig. 1, Medard discloses links or paths that connect neighboring nodes).

As to claim 25, Medard teaches a system for adding routing information for a new node to a routing table with a plurality of entries that reflect an existing deadlock-free set of paths through a network of nodes, wherein the routing table has a row for each source node in the network and a column for each destination node in the network and wherein a table entry located at an entry row and an entry column identifies a link that can be used to send data from the source node in the entry row to the destination node in the entry column, comprising:

means for adding to the routing table, a row including a plurality of entries, each entry identifying a link that directly connects the new node to a neighbor node that can be connected, via existing deadlock-free paths described by the table, to a destination node associated with the entry column(see col. 9 line 44 – col. 10 line 19 and fig. 1, Medard discloses a routing table that has information about newly installed as well as maintained network links that connect each source node to destination node); and

means for adding to the routing table a column including a plurality of entries, each entry identifying a link that can be used to connect a source node associated with the entry row, via existing deadlock-free paths described by the table, to a neighbor node that can be directly connected to the new node(see col. 9 line 44 – col. 10 line 19 and fig. 1, Medard discloses links or paths that connect neighboring nodes)..

As to claim 26, Medard teaches a computer program product including a computer readable medium, said computer readable medium having a computer program stored thereon, said computer program for adding routing information for a node to a routing table, wherein said routing table includes routing information reflecting an existing deadlock-free set of paths through a network of nodes, said computer program comprising:

program code for adding to the routing table, a row including a plurality of entries, each entry identifying a link that directly connects the new node to a neighbor node that can be connected, via existing deadlock-free paths described by the table, to a destination node associated with the entry column; and program code for adding to the routing table a column including a plurality of entries, each entry identifying a link

that can be used to connect a source node associated with the entry row, via existing deadlock-free paths described by the table, to a neighbor node that can be directly connected to the new node(see col. 9 line 44 – col. 10 line 19 and fig. 1, Medard discloses a routing table that has information about newly installed as well as maintained network links that connect each source node to destination node).

As to claim 27, Medard teaches a computer data signal embodied in a carrier wave, said computer data signal including a computer program stored, said computer program for adding routing information for a node to a routing table, wherein said routing table includes routing information reflecting an existing deadlock-free set of paths through a network of nodes, said computer program comprising:

program code for adding to the routing table, a row including a plurality of entries, each entry identifying a link that directly connects the new node to a neighbor node that can be connected, via existing deadlock-free paths described by the table, to a destination node associated with the entry column(see col. 9 line 44 – col. 10 line 19 and fig. 1, Medard discloses a routing table that has information about newly installed as well as maintained network links that connect each source node to destination node); and

program code for adding to the routing table a column including a plurality of entries, each entry identifying a link that can be used to connect a source node associated with the entry row, via existing deadlock-free paths described by the table, to a neighbor node that can be directly connected to the new node(see col. 9 line 44 – col. 10 line 19 and fig. 1, Medard discloses links or paths that connect neighboring nodes

As to claim 2, Medard teaches the method of claim 23, further comprising: forming an ordered set of deadlock-free sub-topologies of said network, each sub-topology comprising links that are not used in any other sub-topology (see fig. 2 , Medard discloses unused links in a tree subtopology); and

generating said routing table in response to said ordered set of deadlock free sub-topologies (see col. 10 lines 42 – 50 and fig. 1 Medard discloses a routing table for a tree topology where links information are stored).

As to claim 3, Medard teaches the method of claim 2, wherein said forming said ordered set of deadlock-free sub-topologies of said network further comprises forming at least one sub-topology of said network that is a spanning layer of said network (see col. 11 lines 38 - 58).

As to claim 4, Medard teaches the method of claim 3, further comprising maintaining a cost of a corresponding link between each of said nodes in said network within each entry of said routing table (see col. 9 line 44 – 65)

As to claim 5, Medard teaches the method of claim 4, wherein said adding said column to said routing table further comprises:

for each entry within said column, performing the following steps :

determining a set of cost values, wherein each value within said set of cost values reflects a sum of the cost of reaching a selected neighbor node of said node from said corresponding forwarding node and the cost of reaching said node from said

selected neighbor node, determining a minimum value of said set of cost values (see col. 9 lines 30 – 65), and

determining forwarding information for said entry indicating said selected neighbor node associated with said minimum value (see col. 10 lines 19 – 41).

As to claim 6, Medard teaches the method of claim 4, wherein said adding said row to said routing table further comprises: for each entry within said row, performing the following steps: determining a set of cost values, wherein each value within said set of cost values reflects a sum of the cost of reaching said corresponding destination node from a selected neighbor anode of said node and the cost of reaching said selected neighbor node from said node (see col. 9 lines 30 – 65),

determining a minimum value of said set of cost values, and determining forwarding information for said entry indicating said selected neighbor node associated with said minimum value(see col. 10 lines 19 – 41).

As to claim 8, Medard teaches the system of claim 24, wherein said routing logic is further operable to: form an ordered set of deadlock-free sub-topologies of said network, each sub-topology comprising links that are not used in any other sub-topology; and generate said routing table in response to said ordered set of deadlock free sub-topologies(see col. 10 lines 42 – 50 and fig. 10).

As to claim 9, Medard teaches the system of claim 8, wherein said routing logic is further operable to form said ordered set of deadlock-free sub-topologies of said

network further by forming at least one sub-topology of said network that is a spanning layer of said network (see col. 11 lines 38 – 58).

As to claim 10, Medard teaches the system of claim 9, wherein said routing logic is further operable to maintain a cost of a corresponding link between each of said nodes in said network within each entry of said routing table (see col. 10 lines 19 – 41).

As to claim 11, Medard teaches the system of claim 10, wherein routing logic operable to add said column to said routing table is further operable to perform the following steps for each entry within said column:

determine a set of cost values, wherein each value within said set of cost values reflects a sum of the cost of reaching a selected neighbor node of said node from said corresponding forwarding node and the cost of reaching said node from said selected neighbor node(see col. 9 lines 30 – 65); determine a minimum value of said set of cost values; and determine forwarding information for said entry indicating said selected neighbor node associated with said minimum value (see col. 10 lines 19 – 41).

As to claim 12, Medard teaches the system of claim 10, wherein said routing logic operable to add said row to said routing table is further operable to perform the following steps for each entry within said row:

determine a set of cost values, wherein each value within said set of cost values reflects a sum of the cost of reaching a corresponding node from a selected neighbor node of said node and the cost of reaching said selected neighbor node from said node (see col. 9 lines 30 – 65);

determine a minimum value of said set of cost values; and determine forwarding information for said entry indicating said selected neighbor node associated with said minimum value(see col. 10 lines 19 – 41).

As to claim 13, Medard teaches the system of claim 24, wherein said routing logic comprises at least one digital logic circuit (see col. 11 lines 11 – 26).

As to claim 14, Medard teaches the system of claim 24, wherein said routing logic comprises program code loaded into a memory of a computer system (see col. 11 lines 11 – 26).

As to claim 21, Medard teaches the method of claim 23, further comprising iteratively performing said steps of adding a row of entries and adding a column of entries in order to add routing information to said routing table for a plurality of nodes (see col. 9 line 44 – col. 10 line 19 and fig. 1).

As to claim 22, Medard teaches the method of claim 23, wherein said existing deadlock free set of paths are through a network of two nodes (see col. 15 lines 55 – 61).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sargon N. Nano whose telephone number is (571) 272-4007. The examiner can normally be reached on 8 hour.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sargon Nano
Feb. 9, 2006

ARIO ETIENNE
PRIMARY EXAMINER